SDC Program Discussion

Organization and Vision

Revision 5: August 01, 2011

SDC Mandated Outcomes

- Improve Security
- Reduce Operational Costs
- Improve service quality, availability, and performance

2011-2013 Program Objectives

- Engineer, design, and construct the infrastructure and architecture of the new data center, including the private cloud “Utility”
- Develop and implement supporting business processes to operate the new data center
- Migrate the computing and telecom equipment from OB2
- Begin planning the migration of other agency data centers into the new SDC

SDC Program Focus

Business Planning

- **Business Mgmt**
  - Business plan, org & resource planning
  - Process mgmt & governance
  - Financial plan, analysis, Rates, Billing, legal
  - Metrics, Benchmarking, Reporting
- **Customer Relations Mgmt**
  - Customer Service and Support, SLAs
  - Acct Mgmt, Business Analysis
  - SDC Marketing
  - Communications
- **Product Mgmt**
  - Service product development & mgmt
  - Sourcing & Vendor Mgmt

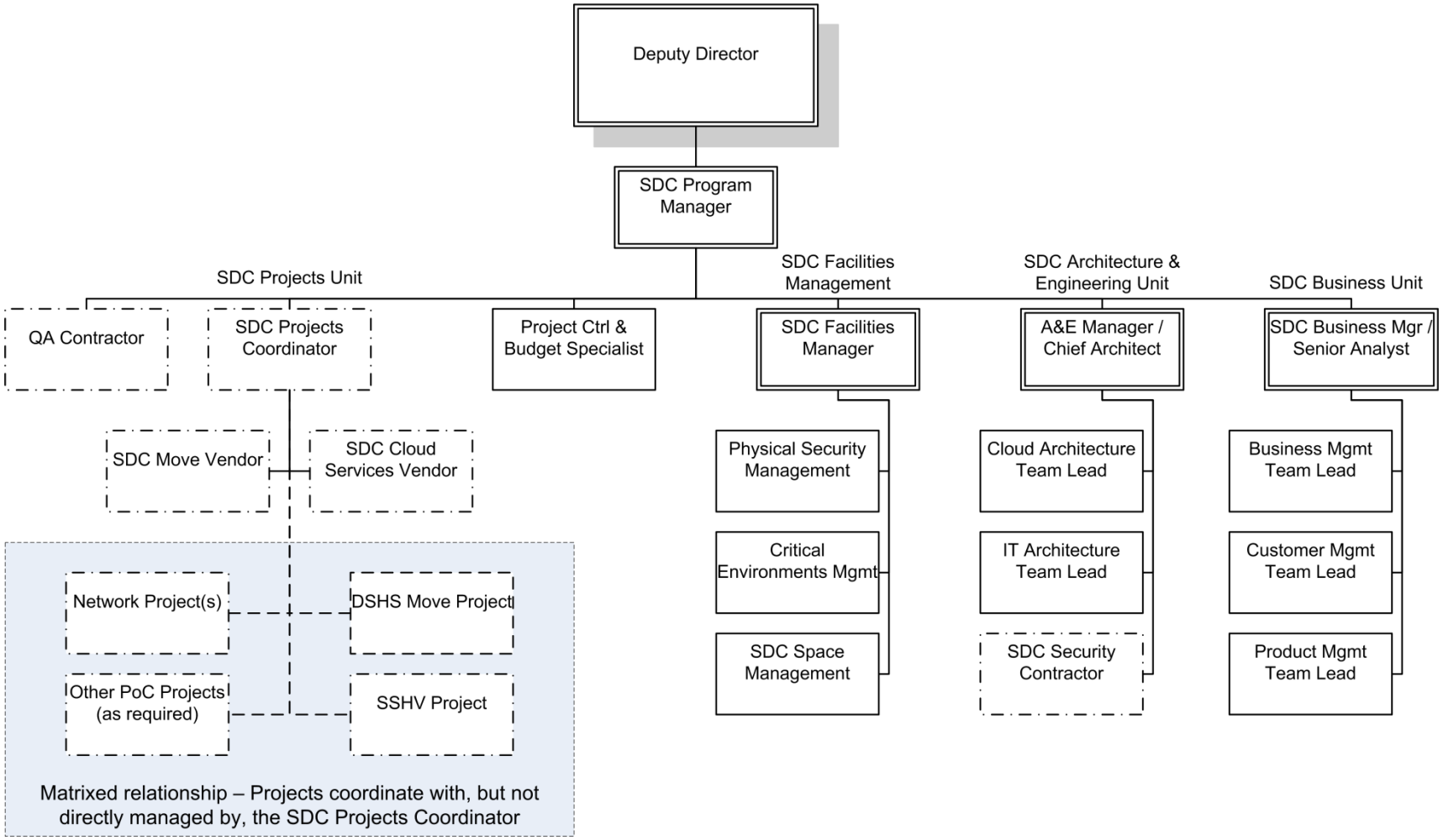
Architecture & Engineering

- **Cloud Architecture**
  - Cloud Infrastructure and Platform Services
  - Cloud Mgmt, operations, security
  - Technology Standards
  - Solution Engineering
- **IT Architecture**
  - Co-Location design
  - Other Managed Services (e.g. storage)
  - Specialized Platforms (e.g. SAP, Exchange)
  - Network: Telecom, Datacom
  - Security, gateways, directory services, etc.
  - Disaster Recovery, Risk Management

Projects Coordination

- **Move Projects**
  - OB2 Move
  - Agency Data Center Moves
- **Complex Migrations**
  - DSHS Move
- **Network Projects**
  - SDC Core
  - OB2 transition
- **Technology Projects**
  - SSHV Project
  - Other proof-of-concept and design projects

SDC Program Organization



SDC Related Projects

- DSHS Core Redesign Project
- DIS OB2 Core Upgrade Effort (SDC Prep)
- SDC Core Network Project
- SDC Raised Floor Preparation (SDC Core)
- SDC Raised Floor Preparation – Data Hall 1
- SDC Raised Floor Preparation – Data Hall 2
- SDC Structured Cable Project (SDC Core)
- SDC External Private Networks
- SDC External Public Networks
- SDC Cloud Computing Project (Procurement, pilot, early adopters)
- SDC Migration (Virtual moves to Cloud Utility, physical moves from OB2)
- Security Infrastructure
- Storage Infrastructure
- Decommission OB2
- Agency Data Center Consolidation

Vision: Utility Computing

Distinguishing Characteristics (as defined by WA. State Computing Transformation Strategy)

- On-demand provisioning of IT resources
- Pay as you go (i.e. pay for what you use when you use it)
- Highly uniform hardware, software, and network environment
- Computing environment (infrastructure) is operated by the provider in a manner transparent to the consumer
- Applications must conform to specific standards
- Security and disaster recovery capabilities supplied by the provider

Cloud Computing Defined

Essential Characteristics

On-Demand, Self-Service, Rapid Entry and Exit

Pay-As-You-Use, Metered Consumption

Rapid Elasticity, Scale Up/Down, Flex

Shared Pools, Illusion of Infinite Resources

Broad Network Access using Standard Internet Protocols

* NIST

"A model for enabling convenient, on-demand network access to a shared pool of configurable computing resources … that can be rapidly provisioned and released with minimal management effort or service provider interaction."

(v15, 07 Oct 09)

* National Institute of Standards and Technology

Cloud = "Utility"

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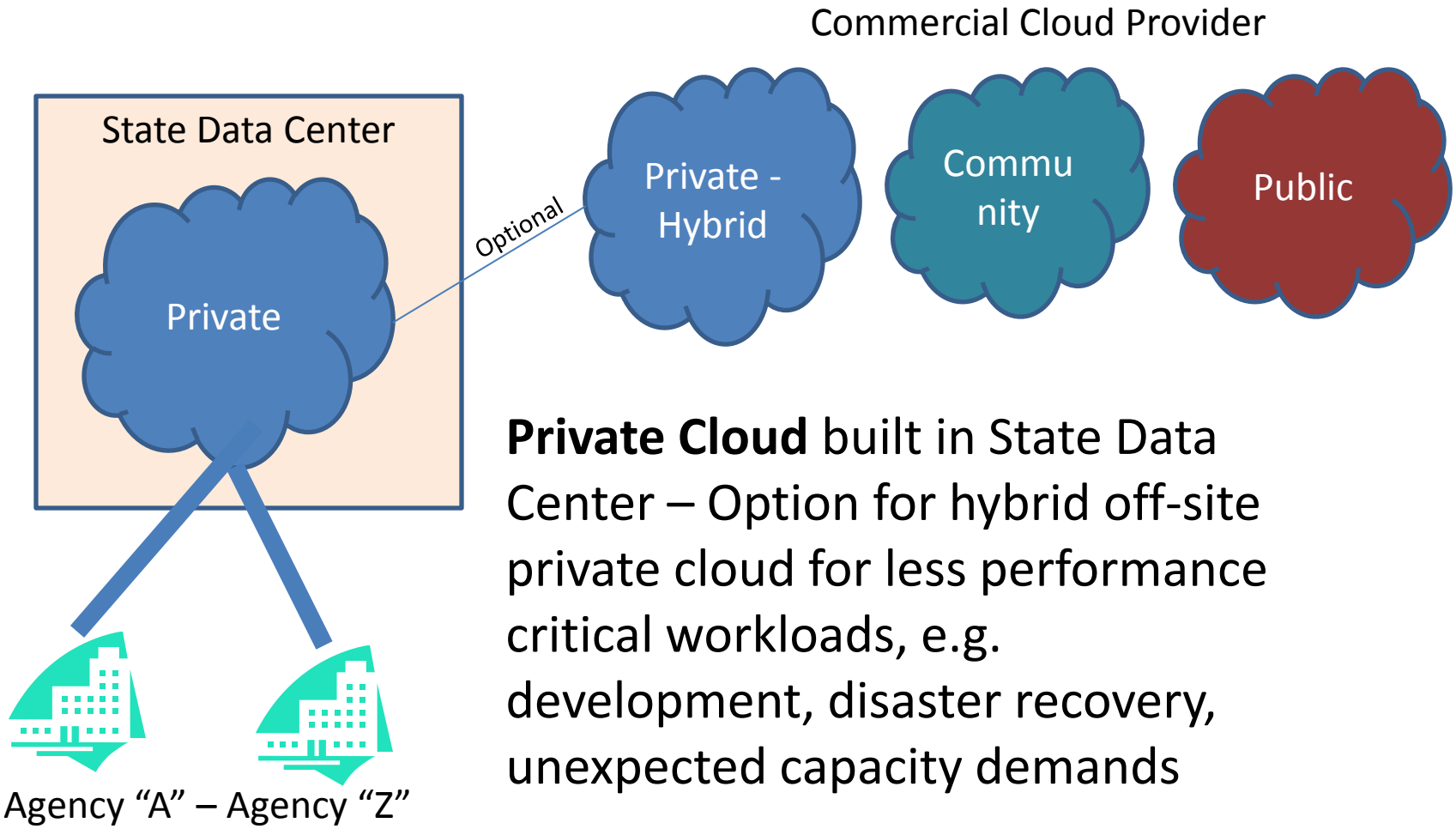
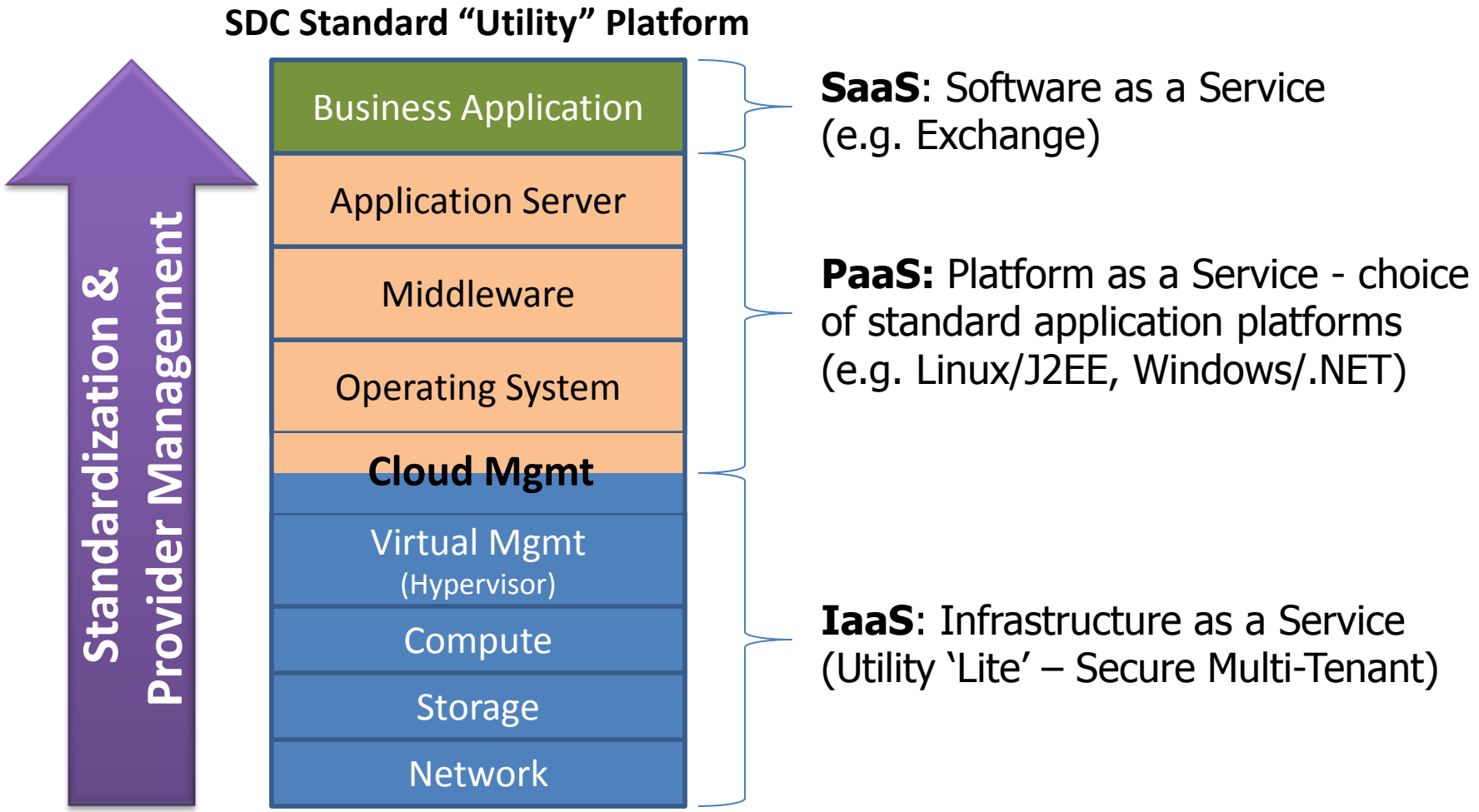
Cloud Deployment Models



Private Cloud built in State Data Center – Option for hybrid off-site private cloud for less performance critical workloads, e.g. development, disaster recovery, unexpected capacity demands

Target: One Cloud Platform – Multiple Service Models



Customer agencies can select the XaaS level most appropriate to meet the needs of the application. Layers above those included in the selected service level are provided and managed by the customer agency.

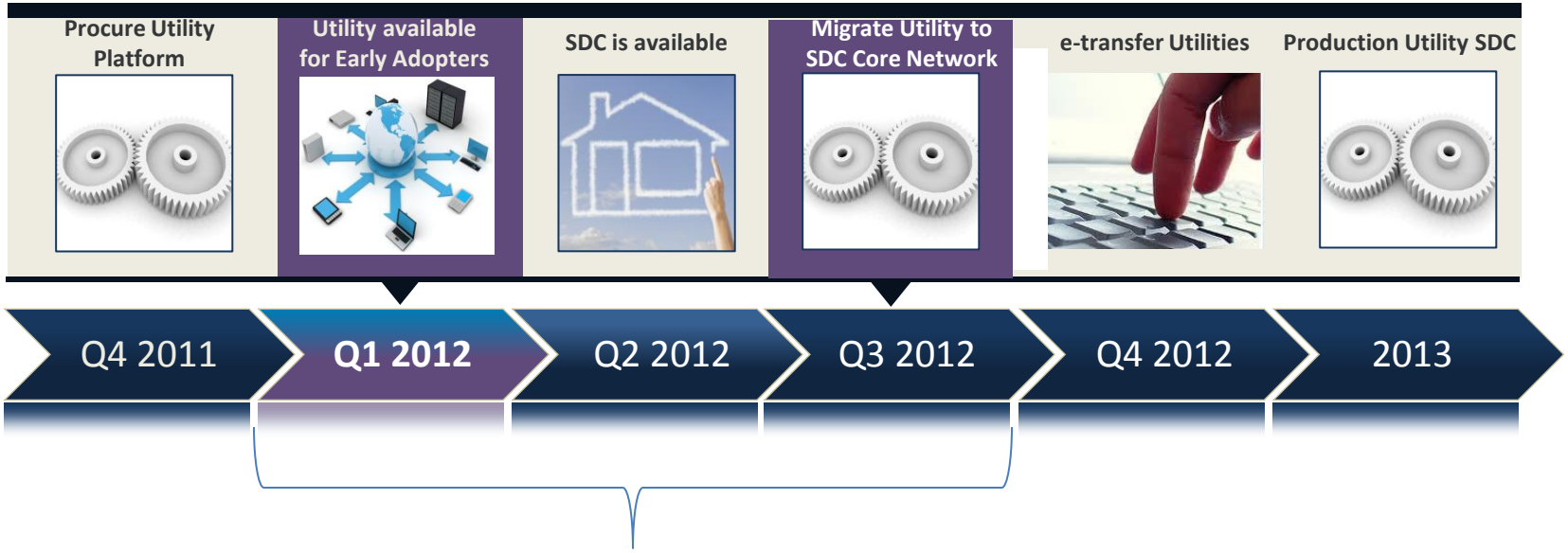
Example Cloud Utility "Appliance"

- Compute, Network, Storage: Pre-integrated and tested
- Guaranteed performance
- Predictable capacity, easy expansion
- Includes "Cloud" layer software: on-demand provisioning, monitoring, charge-back, etc.
- Available from multiple integrators
- Vendors claim 90 days (or less) to implement

Pre-Engineered,
Pre-Integrated and Validated

Strategy: Make Cloud Available Early

EXAMPLE TIMELINE FOR IMPLEMENTING **PRIVATE CLOUD "UTILITY"**



Early adopters begin moving existing virtual servers to Utility Service

Summary

- ***Vision hasn't changed***, just re-focused: Design to the target not the exception
- Technology available today – Young but matured rapidly in last two years – Rapid marketplace adoption
- Apply what we've learned – Optimize our resources – Leverage vendor's experience
- Make utility available early
- Give agencies time to learn utility – get comfortable
- Everyone won't be ready, but move as much as possible to utility in next 12 months
- Easier, less risky transition to SDC
- Realize savings sooner